

Statement of Work

External Independent Peer Review by the Center for Independent Experts

Assessment of the pollock stock in the Eastern Bering Sea

Scope of Work and CIE Process: The National Marine Fisheries Service's (NMFS) Office of Science and Technology coordinates and manages a contract providing external expertise through the Center for Independent Experts (CIE) to conduct independent peer reviews of NMFS scientific projects. The Statement of Work (SoW) described herein was established by the NMFS Project Contact and Contracting Officer's Technical Representative (COTR), and reviewed by CIE for compliance with their policy for providing independent expertise that can provide impartial and independent peer review without conflicts of interest. CIE reviewers are selected by the CIE Steering Committee and CIE Coordination Team to conduct the independent peer review of NMFS science in compliance the predetermined Terms of Reference (ToRs) of the peer review. Each CIE reviewer is contracted to deliver an independent peer review report to be approved by the CIE Steering Committee and the report is to be formatted with content requirements as specified in **Annex 1**. This SoW describes the work tasks and deliverables of the CIE reviewer for conducting an independent peer review of the following NMFS project. Further information on the CIE process can be obtained from www.ciereviews.org.

Project Description: The annual assessments of the pollock stock in the EBS have used similar model configurations for a number of years now. Review is needed to identify areas where the assessment can be improved and aspects that would lead to best-practices for near term catch recommendations. The SSC has requested evaluation of environmental covariates for relative cohort strength, and temperature effects on survey catchability and/or selectivity. Other evaluations on the effect of alternative catch scenarios (i.e., if the catch was equal to the ABC) would be useful to help provide context to the current management practices (in which catches are in most years constrained by a 2 million t limit for all groundfish in the BSAI region). The Terms of Reference (ToRs) of the peer review are attached in **Annex 2**. The tentative agenda of the panel review meeting is attached in **Annex 3**.

Requirements for CIE Reviewers: Three CIE reviewers shall conduct an impartial and independent peer review in accordance with the SoW and ToRs herein. CIE reviewers shall have working knowledge and recent experience in the application of stock assessment methods in general, and preferably Stock Synthesis in particular. Each CIE reviewer's duties shall not exceed a maximum of 14 days to complete all work tasks of the peer review described herein.

Location of Peer Review: Each CIE reviewer shall conduct an independent peer review during the panel review meeting *scheduled in Seattle, WA during May 16-19, 2016 (or one of the subsequent weeks)*.

Statement of Tasks: Each CIE reviewers shall complete the following tasks in accordance with the SoW and Schedule of Milestones and Deliverables herein.

Prior to the Peer Review: Upon completion of the CIE reviewer selection by the CIE Steering Committee, the CIE shall provide the CIE reviewer information (full name, title, affiliation, country, address, email) to the COTR, who forwards this information to the NMFS Project Contact no later the date specified in the Schedule of Milestones and Deliverables. The CIE is responsible for providing the SoW and ToRs to the CIE reviewers. The NMFS Project Contact is responsible for providing the CIE reviewers with the background documents, reports, foreign national security clearance, and other information concerning pertinent meeting arrangements. The NMFS Project Contact is also responsible

for providing the Chair a copy of the SoW in advance of the panel review meeting. Any changes to the SoW or ToRs must be made through the COTR prior to the commencement of the peer review.

Foreign National Security Clearance: When CIE reviewers participate during a panel review meeting at a government facility, the NMFS Project Contact is responsible for obtaining the Foreign National Security Clearance approval for CIE reviewers who are non-US citizens. For this reason, the CIE reviewers shall provide requested information (e.g., first and last name, contact information, gender, birth date, passport number, country of passport, travel dates, country of citizenship, country of current residence, and home country) to the NMFS Project Contact for the purpose of their security clearance, and this information shall be submitted at least 30 days before the peer review in accordance with the NOAA Deemed Export Technology Control Program NAO 207-12 regulations available at the Deemed Exports NAO website: <http://deemedexports.noaa.gov/>
http://deemedexports.noaa.gov/compliance_access_control_procedures/noaa-foreign-national-registration-system.html

Pre-review Background Documents: Two weeks before the peer review, the NMFS Project Contact will send (by electronic mail or online) to the CIE reviewers the necessary background information and reports for the peer review. In the case where the documents need to be mailed, the NMFS Project Contact will consult with the CIE Lead Coordinator on where to send documents. CIE reviewers are responsible only for the pre-review documents that are delivered to the reviewer in accordance to the SoW scheduled deadlines specified herein. The CIE reviewers shall read all documents in preparation for the peer review.

Assessment of the walleye pollock stock in the eastern Bering Sea (~100 p.), including a stock structure evaluation provided as an appendix)
CIE review of the recruitment processes group conducted June 2015
Comments on the final 2015 EBS pollock assessments by the Plan Team and SSC

Panel Review Meeting: Each CIE reviewer shall conduct the independent peer review in accordance with the SoW and ToRs, and shall not serve in any other role unless specified herein. **Modifications to the SoW and ToRs cannot be made during the peer review, and any SoW or ToRs modifications prior to the peer review shall be approved by the COTR and CIE Lead Coordinator.** Each CIE reviewer shall actively participate in a professional and respectful manner as a member of the meeting review panel, and their peer review tasks shall be focused on the ToRs as specified herein. The NMFS Project Contact is responsible for any facility arrangements (e.g., conference room for panel review meetings or teleconference arrangements). The NMFS Project Contact is responsible for ensuring that the Chair understands the contractual role of the CIE reviewers as specified herein. The CIE Lead Coordinator can contact the Project Contact to confirm any peer review arrangements, including the meeting facility arrangements.

The review meeting will include three main parts:

1. A series of presentations with follow-up questions and discussions by CIE reviewers, to be chaired by an AFSC scientist.
2. Any real-time model runs and evaluations conducted in an informal workshop setting, as proposed by the CIE reviewers.
3. Initial report writing by the CIE reviewers, with opportunity for additional questions of the assessment author.

Contract Deliverables - Independent CIE Peer Review Reports: Each CIE reviewer shall complete an independent peer review report in accordance with the SoW. Each CIE reviewer shall complete the

independent peer review according to required format and content as described in Annex 1. Each CIE reviewer shall complete the independent peer review addressing each ToR as described in Annex 2.

Other Tasks – Contribution to Summary Report: Each CIE reviewer may assist the Chair of the panel review meeting with contributions to the Summary Report, based on the terms of reference of the review. Each CIE reviewer is not required to reach a consensus, and should provide a brief summary of the reviewer's views on the summary of findings and conclusions reached by the review panel in accordance with the ToRs.

Specific Tasks for CIE Reviewers: The following chronological list of tasks shall be completed by each CIE reviewer in a timely manner as specified in the **Schedule of Milestones and Deliverables**.

- 1) Conduct necessary pre-review preparations, including the review of background material and reports provided by the NMFS Project Contact in advance of the peer review.
- 2) Participate during the panel review meeting *scheduled at the Alaska Fisheries Science Center in Seattle, WA during May 16-19, 2016*.
- 3) Participate at the peer review meeting *tentatively scheduled at the Alaska Fisheries Science Center in Seattle, WA during May 16-19, 2016* as specified herein, and conduct an independent peer review in accordance with the ToRs (**Annex 2**).
- 4) No later than **June 3, 2016**, each CIE reviewer shall submit an independent peer review report addressed to the "Center for Independent Experts," and sent to Dr. Manoj Shrivani, CIE Lead Coordinator, via email to mshrivani@ntvifederal.net, and CIE Regional Coordinator, via email to Dr. David Die ddie@rsmas.miami.edu. Each CIE report shall be written using the format and content requirements specified in Annex 1, and address each ToR in **Annex 2**.

Schedule of Milestones and Deliverables: CIE shall complete the tasks and deliverables described in this SoW in accordance with the following *tentative* schedule.

<i>April 4, 2016</i>	CIE sends reviewer contact information to the COTR, who then sends this to the NMFS Project Contact
<i>April 25, 2016</i>	NMFS Project Contact sends the CIE Reviewers the pre-review documents
<i>May 16-19, 2016</i>	Each reviewer participates and conducts an independent peer review during the panel review meeting
<i>June 6, 2016</i>	CIE reviewers submit draft CIE independent peer review reports to the CIE Lead Coordinator and CIE Regional Coordinator
<i>June 20, 2016</i>	CIE submits CIE independent peer review reports to the COTR
<i>June 27, 2016</i>	The COTR distributes the final CIE reports to the NMFS Project Contact and regional Center Director

Modifications to the Statement of Work: This ‘Time and Materials’ task order may require an update or modification due to possible changes to the terms of reference or schedule of milestones resulting from the fishery management decision process of the NOAA Leadership, Fishery Management Council, and Council’s SSC advisory committee. A request to modify this SoW must be approved by the Contracting Officer at least 15 working days prior to making any permanent changes. The Contracting Officer will notify the COTR within 10 working days after receipt of all required information of the decision on changes. The COTR can approve changes to the milestone dates, list of pre-review documents, and ToRs within the SoW as long as the role and ability of the CIE reviewers to complete the deliverable in accordance with the SoW is not adversely impacted. The SoW and ToRs shall not be changed once the peer review has begun.

Acceptance of Deliverables: Upon review and acceptance of the CIE independent peer review reports by the CIE Lead Coordinator, Regional Coordinator, and Steering Committee, these reports shall be sent to the COTR for final approval as contract deliverables based on compliance with the SoW and ToRs. As specified in the Schedule of Milestones and Deliverables, the CIE shall send via e-mail the contract deliverables (CIE independent peer review reports) to the COTR (William Michaels, via William.Michaels@noaa.gov).

Applicable Performance Standards: The contract is successfully completed when the COTR provides final approval of the contract deliverables. The acceptance of the contract deliverables shall be based on three performance standards:

- (1) The CIE report shall be completed with the format and content in accordance with **Annex 1**,
- (2) The CIE report shall address each ToR as specified in **Annex 2**,
- (3) The CIE reports shall be delivered in a timely manner as specified in the schedule of milestones and deliverables.

Distribution of Approved Deliverables: Upon acceptance by the COTR, the CIE Lead Coordinator shall send via e-mail the final CIE reports in *.PDF format to the COTR. The COTR will distribute the CIE reports to the NMFS Project Contact and Center Director.

Support Personnel:

Allen Shimada
NMFS Office of Science and Technology
1315 East West Hwy, SSMC3, F/ST4, Silver Spring, MD 20910
Allen.Shimada@noaa.gov Phone: 301-427-8174

Manoj Shivilani, CIE Lead Coordinator
Northern Taiga Ventures, Inc.
10600 SW 131st Court, Miami, FL 33186
mshivilani@ntvifederal.com Phone: 305-968-7136

Key Personnel:

NMFS Project Contact:

James Ianelli, Alaska Fisheries Science Center
NMFS/NOAA Building 4
7600 Sand Point Way NE
Seattle WA 98115
Jim.ianelli@noaa.gov

Annex 1: Format and Contents of CIE Independent Peer Review Report

1. The CIE independent report shall be prefaced with an Executive Summary providing a concise summary of the findings and recommendations, and specify whether the science reviewed is the best scientific information available.
2. The main body of the reviewer report shall consist of a Background, Description of the Individual Reviewer's Role in the Review Activities, Summary of Findings for each ToR in which the weaknesses and strengths are described, and Conclusions and Recommendations in accordance with the ToRs.
 - a. Reviewers should describe in their own words the review activities completed during the panel review meeting, including providing a brief summary of findings, of the science, conclusions, and recommendations.
 - b. Reviewers should discuss their independent views on each ToR even if these were consistent with those of other panelists, and especially where there were divergent views.
 - c. Reviewers should elaborate on any points raised in the Summary Report that they feel might require further clarification.
 - d. Reviewers shall provide a critique of the NMFS review process, including suggestions for improvements of both process and products.
 - e. The CIE independent report shall be a stand-alone document for others to understand the weaknesses and strengths of the science reviewed, regardless of whether or not they read the summary report. The CIE independent report shall be an independent peer review of each ToRs, and shall not simply repeat the contents of the summary report.
3. The reviewer report shall include the following appendices:
 - Appendix 1: Bibliography of materials provided for review
 - Appendix 2: A copy of the CIE Statement of Work
 - Appendix 3: Panel Membership or other pertinent information from the panel review meeting.

Annex 2: Terms of Reference for the Peer Review

Assessment of Walleye Pollock in the Eastern Bering Sea

1. Evaluation, findings, and recommendations on quality of input data and methods used to process them for inclusion in the assessment. In particular:
 - a. Is the use of the index of acoustic backscatter from opportunistic (AVO) used appropriately?
 - b. Is modeling observed numbers from surveys appropriate?
 - c. How should data on mean body mass at age be best used for model projections?
 - d. How should the various data sets be weighted?
2. Evaluate and provide recommendations on model structure, assumptions, and estimation procedures used to assess stock status and condition. In particular:
 - a. Are the selectivity approaches used for surveys and fishery appropriate?
 - b. How should trans-boundary aspects of the resource be handled?
 - c. What constraints, if any, should be placed on survey catchability?
 - d. How should model projection alternatives be evaluated/presented?
 - e. Anything else on which the reviewers care to comment.
3. Evaluate and provide recommendations on harvest recommendations provided by the NPFMC Tier system in the context of the 2,000,000 t BSAI cap and realized management recommendations
4. Evaluate the extent that ecosystem data are presently included in the assessment and recommend how and where improvements can be made.

Annex 3: Draft Agenda
CIE Review of the Eastern Bering Sea Walleye Pollock stock assessment

Alaska Fisheries Science Center
7600 Sand Point Way NE, Seattle, WA 98115
May 16-19, 2016
Building 4; Room 2143 (or TBD)

Review panel Chair/facilitator: Anne Hollowed (Anne.Hollowed@noaa.gov)

Lead assessment author: Jim Ianelli (Jim.Ianelli@noaa.gov)

Security and check-in: Jim Ianelli

*Sessions will run from 9 a.m. to 5 p.m. each day, with time for lunch and morning and afternoon breaks.
Discussion will be open to everyone, with priority given to the panel and senior assessment author.*

Monday, May 16

0900 Introductions and adoption of agenda	Anne Hollowed
0910 Welcome and overview of assessment and process	Jim I.
0950 Observer program	Craig Faunce
1020 Break	
1030 EBS trawl survey	Stan Kotwicki
1115 Acoustic trawl survey (ToR 1a, 1b)	Chris Wilson
1200 Lunch	
1300 Developments in geostatistical modeling of survey data	Jim Thorson
1330 Age determination methods	Tom Helser
1400 Management background and issues (ToR 3)	Diana Stram
1430 Ecosystem application in assessment (ToR 4)	Kirstin Holsman
1500 Break	
1600 Assessment presentation (ToR 1)	Jim I.
1640 Discussion	Panel

Tuesday, May 17

0900 Assessment details continued, model structure, (ToR 1d, 2)	Jim I.
1100 MSE work (ToR 3, 4)	
1200 Lunch	
1300 Presentation of model updates, further requests and discussions	
1700 Adjourn	

Wednesday, May 18

Review of models assigned the previous day
Discussion, real-time model runs
Assignments for models to be presented the following day

Thursday, May 19

Discussion, review of models
Report writing (time permitting)